

## WHAT IS CLAIMED IS:

1        1.    A method of raster image data processing comprising  
2 the steps of:  
3        determining content of a page to be printed;  
4        adaptively generating a screened bitmap output by  
5 selectively  
6        rendering the page to be printed into a fixed pixel  
7 depth bitmap and then screening the fixed pixel depth bit  
8 map to a printer specific pixel depth, and  
9        rendering and screening the page to be printed in an  
10 integrated manner into a bitmap having the printer  
11 specific pixel depth.

1        2.    The method of claim 1 further comprising the steps  
2 of:  
3        dividing a page being processed into a plurality of  
4 smaller areas; and  
5        said step of adaptively generating a screened bitmap  
6 output for each area determined by content of said areas.

1        3.    The method of claim 2 wherein:  
2        said step of adaptively generating a screened bitmap  
3 output is performed in an integrated manner if an area of the  
4 page is primarily comprised of graphic and font elements.

1        4.    The method of claim 2 wherein:  
2        said step of adaptively generating a screened bitmap  
3 output is preformed by rendering at a higher resolution a non-  
4 screened bitmap, then screening said non-screened bitmap to

5 implement the desired screening function if an area of the  
6 page is primarily comprised of continuous tone elements.

1        5.    A data processing system comprising:  
2        an I/O controller for receiving a page description  
3 language representation of a page to be processed;  
4        a page description language interpreter for executing  
5 said page description language representation of said page and  
6 generating a display list representation of said page;  
7        a rendering engine having a first mode for converting  
8 said display list representation of said page into an 8-bit  
9 bitmap representation and a second mode for converting said  
10 display list representation of said page into a lower  
11 resolution screened representation;  
12        a screening system operable on the bitmap generated by  
13 said rendering engine for generating a screened bitmap; and  
14        a decision system selecting said first mode or said  
15 second mode dependent upon content of an area being printed.

1        6.    The data processing system of claim 5 wherein:  
2        said screening system is integrated into said rendering  
3 engine for generating a final screened bitmap output.

1        7.    The data processing system of claim 5 wherein:  
2        said screening system is implemented as a separate  
3 function that operates on the output of said rendering engine.

1        8.    The data processing system of claim 7 wherein:  
2        said rendering engine and said screening system are  
3    integrated but operate in a serial manner first rendering a  
4    higher resolution bitmap then screening said bitmap.